Left ventricular hemangioma

Sol ventrikül hemanjiyomu

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Summary– Primary cardiac tumors of the ventricles are very uncommon. Cardiac hemangiomas are extremely rare primary benign cardiac tumors that are often asymptomatic and are typically diagnosed incidentally during an echocardiographic examination. We report the case of a 27-year-old male who was referred to our hospital complaining of atypical chest pain over the last three months. The pain was unrelated to exercise, and consisted of 1-2 minutes of ongoing, stinging chest pain followed by 2-3 seconds of ongoing palpitations. His physical examination was unremarkable, his blood pressure was 130/80 mmHg, his ECG was sinus rhythm, and his heart rate was 82 beats/min. A transthoracic echocardiogram revealed a mobile 1.20x1.28 cm mass in the left ventricular cavity at the antero-lateral wall. Subsequent coronary angiography was performed to determine the vascular supply for the mass, and showed late opacification of a well-vascularized left ventricle mass from the second diagonal artery. Surgery was performed and the mass was complete resected. The pathological and histological examination of the resected mass showed that it was a hemangioma. The patient was discharged 5 days after surgery without symptoms.

Özet– Ventriküllerin primer tümörleri nadirdir. Kalp hemanjiyomları da çok nadir görülen iyi huylu kalp tümörleridir. Genellikle semptomsuzdurlar ve bildirilen olgular genellikle ekokardiyografik değerlendirmeler sırasında rastlantısal olarak saptanmıştır. Bu yazıda, üç aydan beri olan atipik göğüs ağrısı yakınması nedeniyle kliniğimize başvuran 27 yaşında bir erkek olgu sunuldu. Eforla ilişkisiz batıcı tarzda bir-iki dakika süren gögüs ağrısı ve iki-üç saniye süren çarpıntı yakınmaları olan hastanın fizik muayenesinde herhangi bir özellik saptanmadı. Arter basıncı 130/80 mmHg olarak ölçüldü. Elektrokardiyografisinde 82/dakika hızında sinüs ritmi görüldü. Transtorasik ekokardiyografide sol ventrikül boşluğu içinde antero-lateral duvarda 1.20x1.28 cm boyutlarında hareketli bir kitle saptandı. Kitlenin arteriyel kanlanmasını değerlendirme amacıyla yapılan koroner anjiyografide ikinci diyagonal arterden beslendiği ve geç opasifiye olduğu görüldü. Cerrahi olarak çıkarılan kitlenin yapılan histopatolojik incelemesi sonunda, hemanjiyom tanısı kondu. Hasta operasyon sonrası beşinci günde semptomsuz olarak taburcu edildi.

The incidence of primary heart tumors at autopsy ranges from 0.001% to 0.28%.[1] Approximately 75% of primary cardiac neoplasias are benign, and 2% to 3% of benign tumors are hemangiomas. Therefore, a very limited number of surgically discovered cases have been reported in the literature.[1] Hemangiomas can be located in the pericardium or within the cardiac cavity.

Abbreviations:

ECG	*Echocardiography*
LV	*Left ventricle*

Herein, we present a 27-year-old man with a left ventricular hemangioma.

CASE REPORT

A 27-year-old man presented with atypical chest pain. His physical examination, electrocardiography (ECG), and chest radiograph were unremarkable. Transthoracic echocardiography (Fig. 1a) revealed the presence of a single, 1.20x1.28 cm round, mobile mass attached to the anterolateral wall of the left ventricle (LV) in proximity to the papillary muscle. There were no signs of valvular dysfunction. Coronary angiography showed late opacification of a well-vas-

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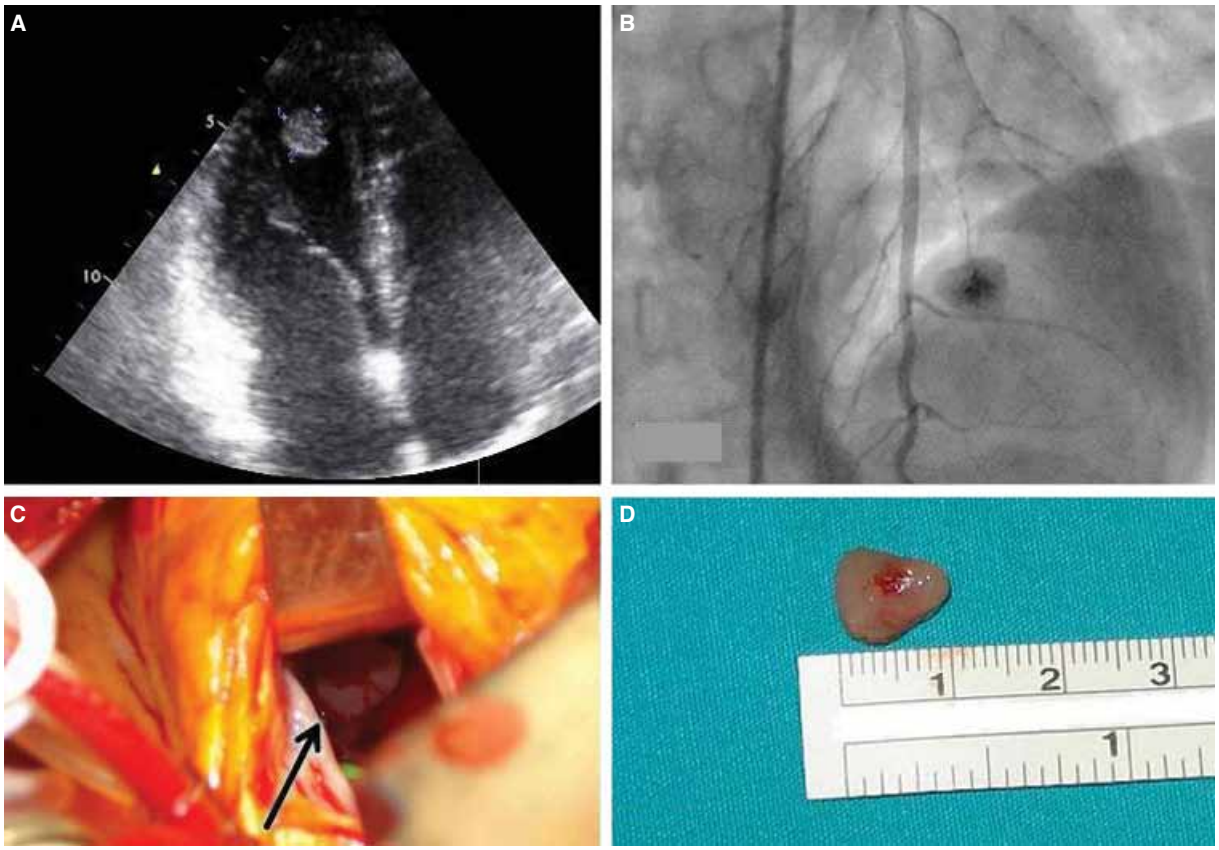

Figure 1. **(A)** Transthoracic echocardiogram (apical 4-chamber view) showing a homogeneous, globular cardiac mass attached to the anterolateral wall of the left ventricle. **(B)** Coronary angiography in antero-posterior cranial view demonstrating the vascular supply of the tumor via 2 diagonal branches of the left anterior descending coronary artery. **(C)** Surgeon's view through an aortotomy and open aortic valve demonstrated by a smooth-walled nodule (arrow). **(D)** Macroscopic view of the tumor (dimensions, 1.0×1.0×1.2 cm).

cularized LV mass (Fig. 1b), and in antero-posterior cranial view, demonstrated that the vascular tumor supply consisted of second diagonal branches from the left anterior descending coronary artery. A complete surgical excision of an oval-shaped and pedunculated 1.0x1.0x1.2 cm mass was performed through an aortotomy approach on the basis of these findings without the need for LV reconstruction (Fig. 1c, d).

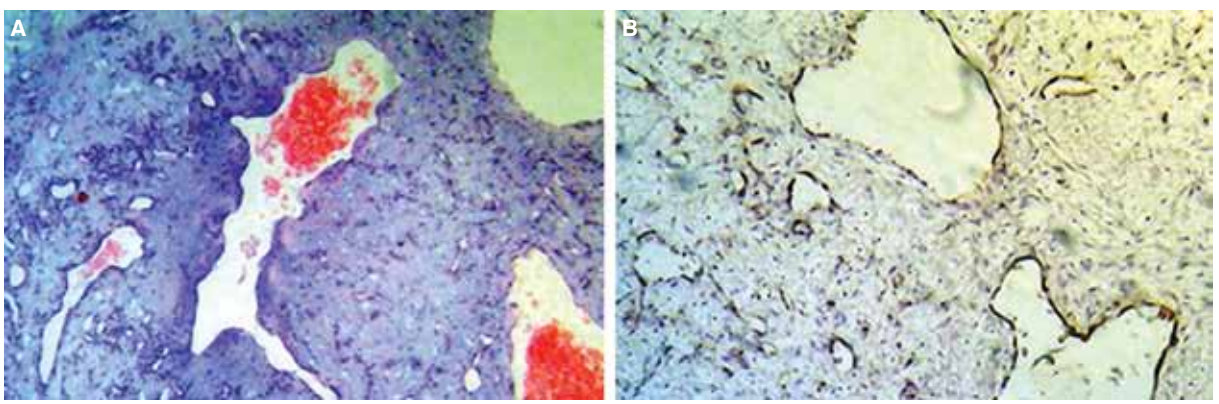

Figure 2. **(A)** Histological analysis of the tumor consisting of blood vessels mainly expending within the subendocardial connecting tissue (H-E x 10). **(B)** The endothelial marker, factor VIII, confirmed the presence of endothelial cells (Internal layer of vessel), (factor VIII x 40).

A histological analysis of the mass revealed large, endothelial-lined, blood-containing spaces with thick fibroblastic walls (Fig. 2a). Areas of capillary-type vessels were present, and the channels were separated by sparse connective tissue. Immunohistochemical staining with the endothelial marker, factor VIII, confirmed the presence of an internal layer of thin endothelial cells (Fig. 2b). The postoperative clinical course was uneventful and the patient was discharged on the 5th postoperative day. The patient was asymptomatic at follow-up after one year, and echocardiography showed no recurrence of the tumor.

DISCUSSION

Hemangiomas can present at all ages, although they are most commonly diagnosed during the 5th decade of life.[2] Although cardiac hemangiomas are often asymptomatic, typical symptoms can include dyspnea, palpitation, atypical chest pain, and arrhythmia. Other symptoms may result from the compression of surrounding structures, obstruction of the outflow tracts, pericardial effusion, or embolization.[3] Hemangiomas located within the atrial or ventricular cavities can mimic mitral or tricuspid disease or outflow tract obstruction, can have symptoms of left or right heart failure and congestion, and are occasionally complicated by pulmonary or systemic embolization.[4]

Echocardiography is the diagnostic imaging modality most commonly used to screen for cardiac hemangiomas. In patients with hemangioma, coronary angiography can reveal the arteries feeding the tumor and the pooling of contrast medium in the sinusoids or vascular lakes within the tumor, but can miss the opacification of the tumor vessels.[4] Computed tomography and magnetic resonance imaging are other imaging modalities useful in the diagnostic workup of cardiac hemangiomas.[5]

Since the histology of a hemangioma cannot be completely confirmed via non-invasive means, surgical resection is the treatment of choice for cardiac hemangioma, and is considered to be successful in most cases.

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Anahtar sözcükler: Kalp atriyumu/cerrahi; kalp neoplazileri; hemanjiyom/patoloji/cerrahi.